MORASH, MELANIE

From: MORASH, MELANIE
Sent: Friday, December 20, 2013 10:18 AM
To: mark.becker@stantec.com
Cc: roger.papler@waterboards.ca.gov
Subject: Request to reconsider passive sampling for COE Site workplan addendum - strong correlation with canisters
Attachments: 08 EB-ER-30 McAlary compressed.pdf

Hi Mark,

Thank you for the productive discussion this morning on the passive samplers vs the TO-15 canister you propose in the workplan addendum. Acknowledging HP/Varian's desire to continue with the same canister sampling device for the next round of sampling, numerous national studies (as well as studies EPA Region 9 has done here in the South Bay) show the high comparability between the passive diffusive samplers & the TO-15 canisters. Other advantages of the passive sampler are that it gives you an opportunity to average concentrations over a longer interval and manage the well-documented temporal variability in vapor intrusion-related indoor air concentrations. They are also smaller, generally cheaper, have simpler operational protocols, and while we do not endorse any particular brand, I will offer that our regional QA office has done studies with solvent-desorbed, carbon radial Radiellos and has a high degree of confidence in the 2-week sample interval.

One thought, to specifically address HP/Varian's concerns regarding changing the sampling device, would be to place duplicate canisters with 1 out of 10 (or at some other acceptable frequency) passive samplers (the presentation attached, from a recent VI workshop in Arizona, summarizes some recent research on the passive samplers).

Our guidance does endorse the use of canister sampling and we can approve it, but many studies - here is one recent publication by Dr. Paul Johnson's team http://pubs.acs.org/doi/pdf/10.1021/es4024767 - on continuous monitoring approaches have concluded that traditional low frequency monitoring approaches (such as the semi-annual 24-hour canister sampling approach) have a high probability of yielding false negative results. In the Johnson study they observed random episodic TCE risks that can only be detected using continuous monitoring technologies. ASTM STP 1570 has also now been released, and its conclusions are that continuous monitoring is the only way VI can be adequately characterized to define worst case risk scenarios. Some researchers recommend that continuous monitoring be performed through at least a few barometric cycles at selected site locations prior to concluding that VI risks do not exist.

Of course, we need to find a practical way to monitor for VI that strikes a balance between sampling over a long-enough duration to capture the sporadic periods of VI activity that exceed action levels and being intrusive to residents.

EPA Region 9 supports the use of the passive samplers in this regard and we hope that you would at least re-engage with your in-house VI experts and the HP/Varian team on this issue for the next phase of residential sampling.

Regards,

Melanie Morash